

rence. War re-opened, Wolfe sought the new world, and Louisbourg fell once more, and forever. A fiat was issued that the place should be destroyed. Buildings were blown up, walls torn down, and the once proud city reduced to a shapeless mass. Two years were needed to complete the work of destruction, and so thoroughly was it done, that to-day but a couple of stone arched casements remain unbroken, though the lines of many of the old fortifications may still be indistinctly traced. On our way along the shore a valuable find was made in *Iris tridentata*, Pursh. flourishing on a bank just above the sea, while some swampy ground skirting an outlying work known as the "Grand Battery," was literally a mass of *Microstylis ophioglossoides*, Nutt. The grass-slope back of the same work was white with the spikes of *Habenaria dilatata*, Gr., and *Lythrum Salicaria*, L. with *Carex panicea*, L. grew plentifully in the ditch surrounding it. *Hippuris vulgaris*, L. almost choked up the old moat encircling the main defenses and *Iris prismatica*, Pursh. enriched a low swale near by. A wet "barren" had added materially to the strength of the place on the seaward side, and in picking our way over this we stumbled across *Carex limosa*, L., *Calamagrostis Pickeringii*, Gr., and *Hypnum molle*, Dicks., while *Racomitrium lanuginosum*, Bird., was found on dry banks closer to the shore.

Retracing our steps to Sydney, and over the Bras D'Or, our next halt was made at Baddeck, with other Cape Breton scenes so well described by Charles Dudley Warner in his sketch "Baddeck and that Sort of Thing." Here, in a salt-water pond on the island forming the harbor were got *Zannichellia palustris*, L. and *Ruppia maritima*, L., and, on the sands surrounding it, a form of *Potentilla Anserina*, L., differing from our inland one in having a widely reflexed calyx and acheniæ forming dark purple heads as large as the ordinary run of wild strawberries. On the swampy shore of the mainland grew *Eleocharis pygmæa*, Torr., and *Poa serotina*, Ehrh., while the grassy hill slopes were gay with *Habenaria lacera*, R. Br., and, where at all shaded, with *Aspidium Noveboracense*, Swz.

Notes on Indiana Plants, 1883.

BY E. J. HILL.

The following notes have been selected from my note-book for 1883 as far as it relates to the flora of Indiana. Some of the species named are additions to those given in the Catalogue of the Plants of Indiana by the editors of the BOTANICAL GA-

ZETTE, and others are mentioned to extend their geographical range beyond that indicated in the same work.

Anemone triloba, Chaix. Michigan City. Found in abundance on the slopes of sand hills, mostly on their eastern sides. All have the lobes of the leaves rounded or very blunt, none with acute lobes being noticed. In the immediate vicinity of Chicago the lobes of the leaves of *Hepaticas* are all acute, as far as I have met with the species. Mr. Babcock, in his *Flora of Chicago and vicinity* (*The Lens*, vol. 1, p. 20), mentions the occurrence of *Hepatica triloba* on the hills at Joliet, Ill., and also at Michigan City. At the latter place it grows interspersed with *Epigæa repens*, L.

Hypericum Sarothra, Michx., Hammond, Lake county.

Pycnanthemum linifolium, Pursh., Whiting, Lake county.

Lycopodium lucidulum, Michx., Chesterton, Porter county.

In "Wolf Lake," a narrow pond in the northeastern corner of Lake county, the following Potamogetons were found; *P. amplifolius*, Tuckerman, *P. perfoliatus*. L. var. *lanceolatus*, Robbins.

There may be given for new localities:

Lespedeza reticulata, Pers., var. *angustifolia*, Gray., (*L. violacea*, Pers. var. *angustifolia*, Gray, Man.) Gibson, Lake county.

Floerkea proserpinacoides, Willd. Chesterton.

Gnaphalium uliginosum, L. Along the road between Hammond and Gibson. This is the first time I have seen this plant in the West. It is not given in Patterson's "Catalogue of the Plants of Illinois." I have found it as far north as Sault Ste. Marie, Ontario.

Cacalia atriplicifolia, L. Hammond; *Hieracium Gronovii*, L., sand hills at Hammond.

Gerardia auriculata, Michx., Sheffield, Lake county.

Poa annua, L., Hammond. With biennial root. Not a "frequent" plant or found "everywhere," as far as my experience goes, though often sought.

Potamogeton zosteræfolius, Schum. (*P. compressus*, L. ex Fries, Gray's Manual), *P. lonchites*, Tuckerman, *P. pectinatus*, L., *P. zizii*, Schum. (*P. lucens*, L. var. *minor*. Volte), "Wolf Lake."

Utricularia resupinata, Greene. This, noticed last year in the BOTANICAL GAZETTE, and identified from a single imperfect specimen found in flower late in September, and from some plants in fruit, was sought in August the past summer. Hundreds of plants were seen in blossom, so that there was no mistake as to the identification. As yet I have seen it in no locality except

this "slough" at Whiting. *Utricularia* is well represented in the pine barrens of Lake county, where I have found besides the above, *U. vulgaris*, var. *Americana*, *U. gibba*, *U. purpurea*, and *U. cornuta*. *U. intermedia* has been reported, but I have not found it, except farther north in Michigan.

At Chesterton, in the low grounds by the Calumet river, occur plants of *Viola striata*, Aiton, with white flowers and crenate-serrate leaves, approaching *V. canina*, L. var. *Sylvatica*, Regel, in its leaves. *Lespedeza capitata*, Michx. var. Leaflets linear-lanceolate to oblong-lanceolate, strongly reticulated, glabrous above. Lower peduncles often elongated to $\frac{1}{2}$ to $\frac{3}{4}$ inch; stem slender and but little branched. Approaches in character *L. angustifolia*, Elliott, (*L. capitata*, var. *angustifolia*, Gray), but has also characteristics of *L. capitata*, var. *longifolia*, Torr. & Gray (Flora of N. A., vol. 1, p. 368).

Lespedeza capitata, Michx., var. Leaflets linear-oblong, densely silky canescent on both sides, shining; stem densely villose, not much branched, but more so than in the common form of the above variety. Otherwise it does not seem to be distinct from *L. capitata*, var. *sericea*, Hook & Arnot, in Torr. & Gray's Flora of N. A. (vol. 1, p. 369). The shape of the leaflets is intermediate between the first variety and the common form. The peduncles of the lower flowers are inclined to lengthen, as in *L. angustifolia*, Elliott.

Both of these grow with the common *L. capitata*, on the dry sand ridges near Hammond, a station on the Mich. Cent. R. R. The three in some respects shade off into each other, especially in their lower leaves, and yet they were easily detected in the field before consulting the books for finding the distinctions between them and the well known *L. capitata*, everywhere abundant in this region. Whether the first of these should be called *L. angustifolia*, Elliott, and included with it, or *L. capitata*, var. *longifolia*, Torr. & Gray, is not easy to determine, but the former seems preferable. The range of *L. angustifolia* is given in Gray's Manual as "near the coast and southward;" that of *L. capitata*, var. *longifolia*, "Kentucky to Louisiana;" (Flora of N. A.) The second variety is so near *L. capitata*, var. *sericea*, that little is risked in classing it with that, the main discrepancy consisting in its being less branching. Its range is said to be "Louisiana," Drummond; Arkansas, Nuttall! Dr. Pitcher!" (Flora of N. A.) It would seem that we have near the head of Lake Michigan the connecting links between *L. capitata* and two of

its varieties and *L. angustifolia*, until lately regarded as a variety of *L. capitata* also.

All of these forms were obtained within a few rods, or even feet, of each other, under substantially the same conditions of environment. It is not easy to conjecture what forces should cause such modifications, if they originated here, and the varieties have spread elsewhere to become more modified under different conditions of climate, soil, or other external forces. If they originated elsewhere, and have been brought together here, the same environment might be expected to lessen their differences, and cause them to approach a common type.

GENERAL NOTES.

The Willow Basket.—Mr. Guthrie's story is not without a parallel. See Darlington's *Flora Cestrica*, ed. 3, p. 279, for the following: "In Watson's Annals of Philadelphia we are told that the Yellow Willow, in this State [Pennsylvania] came originally from some wicker-work found sprouting in Dock Creek. It was seen by Dr. Franklin, who took it out and gave the cuttings to Charles Norris, who reared them on the grounds now the site of the Custom House, or late Bank of the United States."

A basket of unpeeled willow, combining much strength with flexibility, is quickly, cheaply and easily made, providing the material is readily accessible. Somewhere along the canal bank the boatman might cut his bundle of green twigs, and a half-hour or less of evening work would give him an excellent thing for carrying his potatoes in the hold. But the weight, which is simply astonishing to persons accustomed to handling ordinary willow ware, would be likely to insure its staying there, and so long as it did stay it would continue to be a very good basket, and would also be in condition to sprout if thrown into a ditch. But a more shakely thing than a willow basket woven green and afterwards dried it would be difficult to imagine! I have seen, with my own eyes, a first rate half-bushel feed basket of unpeeled willow go to complete wreck on a western farm in less than a week—a brief period not at all inconsistent with the retention of vitality in the stouter frame-work. On the other hand I have had too much experience in unsuccessful attempts to revive carelessly packed willow cuttings to place much confidence in the vitality of dried and withered twigs coming to hand after only a few days of transit through the mails.

Please observe I do not question Mr. Guthrie's statement of facts. I simply would state express belief that he very much overestimated the character and extent of the service done by his basket before it landed in the ditch.—M. S. B.

Variation and Environment.—Is variation an indication of changed environment? The red cedars which flank the road-side to my house present